Water Bead Lab

Kit contains:

- 5 jumbo water beads
- 1 measuring cup
- 1 observation log

You will need: a medium container, water, a spoon, writing materials, and a calculator (optional).

WARNING: Do NOT eat water beads!

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Water beads, or hydro orbs, are water-absorbing pellets made from an absorbent polymer that grow when left in water. They are fascinating to observe and play with, but DO NOT EAT THEM.

INSTRUCTIONS

Procedure: This lab will take 24 to 48 hours. Record your start time and observations about your dry water beads in your observation log. Then put your beads in a medium-sized container of water. At various intervals (Example: 2 hours, 4 hours, 12 hours, etc.), spoon the beads out of the water, drain, observe, and measure.

Measuring: Measure the **volume** of your beads with **water displacement**. Volume is the amount of space taken up by a 3-D object. When an object enters water, it pushes out water to make room for itself. The object pushes out a quantity of water that is equal to its own volume. This is called displacement. In this lab, measure volume with milliliters (mL).

How to Measure: Fill your measuring cup to the 100 mL line. Drain your water beads and then put them into your measuring cup. Observe how the water rises.

Total volume = new water level – 100 mL
Average volume for 1 bead = Total ÷ number of beads

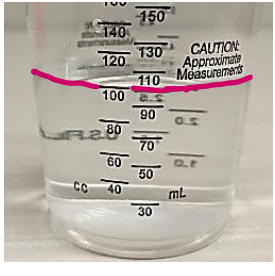
EXAMPLE

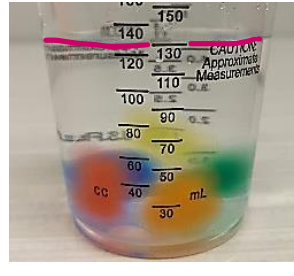
Elapsed time: 4 hours

Observations: Water beads are big & bumpy like alien brains.

Total volume for 5 **beads:**
130 mL – 100 mL = 30 mL

Average volume: 30 mL ÷ 5 = 6 mL





Frequently Asked Questions

- *Why aren't the lines on the measuring cup at equal intervals?* Cup shape! The lines would be equally spaced if the cup's sides were straight up and down, but your cup flairs out and holds more liquid as it rises.
- *Why does the milliliter side of the cup say CC?* Milliliters (mL) and cubic centimeters (CC) are equivalent units of measure: 1 mL is equivalent to 1 CC.

What Next?

- Squish one water bead and see what happens!
- Set another bead on a dry plate. How long does it take to shrink back down?
- Freeze another bead and then set on a dry plate. How long does this one take to shrink?
- Sprinkle another one with salt and see what happens. Salt is a desiccant, which means it helps with drying.